

H/A

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/749,197	HE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thuy V. Tran	2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/30/2003.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 30 December 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

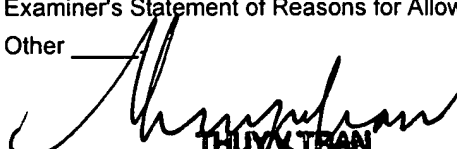
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>12/30/2003</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                 | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____  |

  
**THUY V. TRAN**  
**PRIMARY EXAMINER**

### **DETAILED ACTION**

This is a response to the Applicants' filing on 12/30/2003. In virtue of this filing, claims 1-20 are currently presented in the instant application.

#### ***Allowable Subject Matter***

1. Claims 1-20 are allowed.

#### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

Prior art fails to disclose or fairly suggest:

- A patch antenna comprising a dielectric substrate having a top side and a bottom side, and two conducting patches respectively disposed on the top and the bottom sides of the dielectric substrate, at least one of the two conducting patches defining a plurality of matching holes for impedance match tuning, and a feeding cable comprising an inner conductor and an outer conductor, the inner conductor electrically connected to one conducting patch and the outer conductor electrically connected to another conducting patch, in combination with the remaining claimed limitations as called for in independent claim 1 (claims 2-8 are allowed since they are dependent on claim 1);
- A dual-patch antenna comprising a top radiating patch, a bottom radiating patch being separately parallel to the top radiating patch and having the same dimension as the top radiating patch, and a feeding cable inserted between the top and the bottom radiating patches and comprising an inner conductor and an outer conductor, the inner conductor and the outer conductor separately electrically connected to the top and the bottom radiating patches, in combination with the remaining claimed limitations as

Art Unit: 2821

called for in independent claim 9 (claims 10-14 are allowed since they are dependent on claim 9); and

- A patch antenna comprising a first conducting patch, a second conducting patch spatially parallel to and aligned with the first conducting patch, and a feeding cable including an inner conductor electrically connected to the first conducting patch around a first portion of the first conducting patch, and an outer conductor electrically connected to the second conducting patch around a second portion of the second conducting patch, in combination with the remaining claimed limitations as called for in independent claim 15 (claims 16-20 are allowed since they are dependent on claim 15).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Citation of relevant prior art***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Fink et al. (U.S. Patent No. 6,903,687) discloses a feed structure for antennas.

Prior art Gabriel et al. (U.S. Patent No. 6,861,988) discloses a patch antenna for operating in at least two frequency ranges.

Prior art Boyle (U.S. Patent No. 6,624,786) discloses a dual band patch antenna.

Prior art Boyle (U.S. Patent No. 6,512,489) discloses an antenna arrangement.

Art Unit: 2821

Prior art Siwiak et al. (U.S. Patent No. 5,410,749) discloses a radio communication device.


*Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

07/25/2005



**THUY V. TRAN**  
**PRIMARY EXAMINER**